

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 4, 11 and 19-21 have been cancelled without prejudice or disclaimer. Claims 1 and 9 have been amended. Claim 9 has been amended to correct a clerical error. Support for the amendments to claim 1 can be found at least in FIG. 3. New claim 22 has been added. Support for new claim 22 can be found at least in FIGs. 2 and 3. No new matter has been added.

This amendment adds, changes and deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 1, 3, 5-7, 9-10, 12-18 and 22 are now pending in this application.

Information Disclosure Statement

Applicant respectfully requests the Examiner to consider the document listed on the Form PTO/SB/08 submitted with the Information Disclosure Statement filed on November 30, 2007, and return to applicant an initialed Form PTO/SB/08 in the next communication from the Patent Office.

Rejection under 35 U.S.C. § 112, first and second paragraphs

Claims 1, 19 and 20 stand rejected under 35 U.S.C. § 112, first paragraph as failing to comply with the enablement requirement, and under 35 U.S.C. § 112, second paragraph as being indefinite. While applicant believes that claims 1, 19 and 20 were enabled and definite prior to the present amendment, claims 19 and 20 have been cancelled, and claim 1 has been amended to delete the phrase “body of the vehicle” to expedite allowance of the claims. Accordingly, applicant submits that the rejections under 35 U.S.C. § 112, first paragraph and second paragraph have been overcome.

Drawings

The drawings were objected to for allegedly not showing the claimed feature of the “image capturing unit is mounted on a front side of a body of the vehicle while the visible-light emitting unit is mounted on a rear side of the body with respect to the image capturing unit.” This objection is moot in light of the cancellation of the quoted language from the claims.

Rejection under 35 U.S.C. § 103

Claims 1, 3-5, 7, 9-17, 19 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0169160 to Barros et al. (hereafter “Barros”) in view of U.S. Patent Application Publication No. 2003/00989 to Misaiji et al. (hereafter “Misaiji”). Claims 6 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Barros in view of Misaiji, and further in view U.S. Patent No. 6,520,690 to Chu (hereafter “Chu”). Claim 21 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Barros in view of Misaiji, and further in view U.S. Patent No. 6,038,496 to Dobler et al. (hereafter “Dobler”). Applicant respectfully traverses these rejections for at least the following reasons.

Independent claim 1 recites “a visible-light emitting unit including a lens, the visible-light emitting unit is configured to emit visible light, wherein the lens is disposed in a substantially horizontal direction,” and “a direction in which the lens faces deviates from a direction in which the image capturing window faces.” The Patent Office relies on Misaiji for disclosing the feature of the lens of the visible-light emitting unit. Misaiji, however, does not disclose the arrangement of the lens according to the above quoted features of claim 1, where the lens is disposed in a substantially horizontal direction, and the direction in which the lens faces deviates from a direction in which the image capturing window faces.

While the Patent Office cites to FIG. 7 and the transparent cover 10 of Misaiji for disclosing the feature of claim 1 wherein the lens is disposed in a substantially horizontal direction, the cover 10 of Misaiji is not disposed in a substantially horizontal direction as recited in claim 1. Misaiji discloses in paragraph [0054], that, in the second embodiment

shown in FIG. 7, a plurality of luminous bodies 30 are provided around the shielding element 12 of the first embodiment. FIG. 3 of Misaiji, which illustrates the first embodiment, shows that shielding element 12 and lens (“transparent cover”) 10 are directed downward.

Applicants note that FIG. 7 in the second embodiment of Misaiji corresponds to FIG. 4 in the first embodiment. FIG. 4 is taken along line IV-IV in FIG. 3 that extends obliquely downward. Therefore, FIG. 4 does not show that lens 10 is disposed in a substantially horizontal direction, and the same is true for Fig. 7. Therefore, in the second embodiment shown in FIG. 7, lens 10 is not disposed in a substantially horizontal direction but is directed downward as in the first embodiment.

Moreover, claim 1 further recites “a direction in which the lens faces deviates from a direction in which the image capturing window faces.” This feature, which is not disclosed or suggested in the references applied in the rejection of the claims, assists in limiting the intensity of light, which is caused from the visible-light emitting unit due to, for example, scattering in the air, from entering the image capturing unit. This is so because the main direction of light from the visible-light emitting unit, which is determined by the orientation of the lens, deviates from the facing direction of the capturing window and therefore the light scattered in the air, which is originally radiated from the visible-light emitting unit, is mainly generated in the area which is apart from the area from where the image capturing unit receives light. The references applied in the rejection of the claims, do not suggest this recited feature of claim 1, or its benefits in limiting the intensity of light originating from the visible-light emitting unit and scattered back to the the image capturing unit.

New claim 22

New claim 22 recites “a visible-light emitting unit including a lens, the visible-light emitting unit is configured to emit visible light,” and “the lens is located at a position closer to a rear side of the vehicle than a position of an outer opening of the image capturing window is to the rear side of the vehicle.” Thus, in claim 22, the lens of the visible-light emitting unit is located closer to the rear side of the vehicle than the outer opening of the image capturing window is to the rear side of the vehicle. The references applied in the

rejections of the claims fail to disclose this recited positional relationship between the image capturing unit and the visible-light emitting unit. This positional relationship between the image capturing unit and the visible-light emitting unit assists in limiting the intensity of light from entering the image capturing unit. This is so because light, which is irradiated from the visible-light emitting unit and is reflected or scattered by the lens, cannot enter the image capturing window and therefore does not reach the image capturing unit.

By contrast, for example, Misaiji, which was relied on for disclosing the lens as recited in the claims, illustrates an outer opening of its image capturing window behind the lens 10. Therefore in Misaiji, light which is irradiated from the luminous bodies 30, and is reflected or scattered by the lens 10, can reach the image capturing unit (camera) 20.

Thus, the references applied in the rejection of the claims, even if combined, fail to suggest all the features of new claim 22.

The dependent claims are patentable for at least the same reasons as their respective independent claims, as well as for further patentable features recited therein.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.


The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for

such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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